



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/332,103	06/14/1999	KENTARO YANO	8622868	2516

5514 7590 05/28/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

LAROSE, COLIN M

ART UNIT	PAPER NUMBER
----------	--------------

2623

DATE MAILED: 05/28/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

19

Office Action Summary

Application No.

09/332,103

Applicant(s)

YANO ET AL.

Examiner

Colin M. LaRose

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 2 April 2003 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/332,103 is acceptable and a CPA has been established. An action on the CPA follows.

Arguments and Amendments

2. Applicants' arguments and/or amendments filed 3 March 2003, have been entered and made of record.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 2, and 7 have been fully considered but they are moot in view of a new ground of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-10 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent 5,795,082 by Shimada et al. ("Shimada").

Regarding claim 1, Shimada discloses a quantization method (figure 12) in which quantization processing is applied to data for first and second recording means (figure 5, C1 and C2: low- and high-density cyan) which record input image data in a plurality of gradations which belong to each of different gradations in substantially the same hue, comprising the steps of:

inputting multi-value level image data (S100, figure 5);

a first quantization step (S140, figure 5) of performing quantization of the image data input for the first recording means to data with a lower level than that of the input image data, the first quantization step performing the quantization by conducting error correction (column 13, lines 56-67 and figure 17: quantizing the image data into low density dots is done by error diffusion); and

a second quantization step (S120, figure 5) of performing quantization of the image data input for the second recording means to data with a lower level than that of the input image data, the first quantization step performing the quantization without conducting error correction (column 12, lines 40-47 and figure 15: quantizing the image data into high density dots is done by dithering),

wherein at least one of the first and second quantization steps performs quantization of the input image data to multi-value data with 3 or more levels, so that the corresponding one of the first and second recording means may record the image in a plurality of gradations (both quantization steps quantize the image data into 3 levels – no dot, low-density dot, and high density dot – corresponding to one of 256 gradations (see figure 18)),

Art Unit: 2623

wherein the first recording means records the image with lower density recording material than that used by the second recording means (i.e. first recording means uses light dots, and second recording means uses dark dots).

Shimada also discloses the corresponding apparatus and storage medium of claims 2 and 7, which are substantially the same in scope as claim 1.

Regarding claim 3, Shimada discloses the recording means are of an ink-jet system (e.g. figure 4).

Regarding claim 4, Shimada discloses the first and second recording means record the image with light and black (i.e. dark) ink ("C1" and "C2" in figure 5).

Regarding claim 5, Shimada discloses the size of the ink drop is controlled when the first and second recording means effect recording in a plurality of gradations (i.e. Shimada's recording means controls the size of the ink drops so that the drops are uniform as shown in figure 18).

Regarding claim 6, Shimada discloses the first and second recording means share a region in which both means effect recording while both raising recording levels (e.g. figure 18).

Regarding claims 8-10, Shimada discloses the first quantization uses error diffusion, and the second quantization uses dithering, as addressed above for claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (703) 306-3489.

Art Unit: 2623

The examiner can normally be reached Monday through Thursday from 8:00 to 5:30. The examiner can also be reached on alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (703) 306-0377.

CML

Group Art Unit 2623

19 May 2003


AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600